CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

SECRET
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(FOR KEY SEE REVERSE)

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AERODYNAMICS DEPARTMENT

1. The aerodynamics department [redacted] did research work on the A-4, a missile designed along the lines of conventional aircraft, and a flak-rocket missile [redacted] 25X1

[redacted] 25X1 Two types of Soviet commissions visited our department: (a) highly qualified scientists of the university or academy level who seemed to be trying to appraise the results, and (b) much lower-level scientists who placed work orders. An example of the first type was ILYUSHIN, professor of mechanics, head of Leningrad University, and formerly an employee at the Soviet Bureau of Standards. These commissions dealt primarily with department heads [redacted] 25X1

25 YEAR
RE-REVIEW

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STATE	#x	ARMY	#x	NAVY	#x	AIR	#x	FBI		AEC		OSI	x	[redacted]

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The commissions worked through the deputy head of the department. The Soviets assigned permanently to our department were not high-level scientists, but were on about the level of the second type of commission.

2. The theoretical work of the department was done by KONRAD, MUELLER, HAMMER, and SCHWARZ. WENZEL was in charge of experimental work. FALKENMEYER did some experimental work, some calculations, and some water canal work. The remainder of the department did non-scientific work.

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3. The major pieces of apparatus were the wind tunnel two water canals - one small elementary and one larger a 30-cm-diameter Schlieren device built In Leningrad for wind tunnel and a 25X1
metallurgist's microscope. The microscope was built in Leningrad 25X1

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4. Early in 1951, all work orders were discontinued

the Soviets did not propose to continue

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Dr. ALBRING worked on a pet project, dealing with the transition phenomena between laminar and non-laminar flow on various wing shapes. SCHWARZ and MUELLER worked 25X1
with him. HAMMER worked on heat transfer problems. KONRAD worked on pressures existing on various parts of a wing. These were individual unassigned ideas. The Soviets may have thought that it was a good investment 25X1

STEUERUNG DEPARTMENT

6. This department under Dr. HOCH was in three sections. In the Steuerung Section, of which MUELLER was chief, Dr. HOCH supervised the construction of an electronic computor for Ostashkov. This 25X1
was the only job of this section their main job. From Dr. ALBRING, who considers Dr. HOCH a very able scientist, Dr. HOCH had been prominent during the 25X1
war on torpedo research and development. He then became a specialist on calculations by means of electrical computing machines on rocket trajectories. He built a computor at Ostashkov that was the same type he had built at Peenemuende. Construc- 25X1
tion was started in 1948 and four or five people worked about six months to complete it. The frame size was roughly 1 meter cubed (very rough). the results appeared on indicating in- 25X1
struments.

7. The Soviets believed the computor to be very good. However, Dr. HOCH did a lot of advertising and may have over-sold it. Much secrecy surrounded this work, second only to the secrecy imposed on the work in the high frequency section. if Dr. 25X1
HOCH had built one while he was in Moscow but would believe that he would have built one wherever he could get approval.

8. The high frequency section under PREIKSCHAT had considerable internal strife. MOLLWO and PREIKSCHAT had differences of opinion on professional problems. MOLLWO, SCHMIDT, and LANGE criticized PREIKSCHAT regularly in their conversations. The department was well stocked with electrical equipment, frequency meters, cathode ray oscilloscopes, meters, etc. 25X1

9. The work was very secretive but observe a little of their work outside the building. A flat-type antenna about three meters square and mounted about one meter above the roof of the one-story building was up for three months during 1951. not believe there was anything in front of the three-meter-square screen. 25X1 25X1

10. A conical-type antenna, maybe one and one-half meters long and one and one-half meters in diameter at the mouth, was observed on the ground outside the shop. This antenna was under guard at all times. This was set up in 1951 25X1 25X1

11. The Soviets took this department over first in their process of taking over the entire organization. Some fifteen Soviets were brought into the department and these Soviets were regarded rather highly by the Germans. The Soviets continued the work of the department using the Germans for consultation from time to time.

12. Aircraft occasionally came and circled the area. PREIKSCHAT sometime went up in the aircraft, the craft was working with the ground installation. 25X1 25X1

13. There was never a missile or a missile mock-up on the grounds. Many missile components were lying around. Some rusted away and some were dismantled for parts. 25X1

14. <u>The Messu[illegible] Instrument Section</u>

This section under Prof. SCHUTZ worked on devices to be placed in rockets such as gauges and indicators (for example - temperature measurement). These devices were electrical, inductive, or capacitive, and were types that would be used at the test stand or in actual flight tests. Primarily they were repeating the work of Peenemuende with improvements.

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16. The group would prepare papers on planned instruments, have these papers approved, build the instruments, run tests on them, and make a report on the test. 25X1 flame temperature work went through these steps. The prototype was built using a laboratory flame. Later the spectrograph was removed for other work, 25X1

17. Dr. COERMAN did the scientific work of this section. He worked out thrust measuring problems with Dr. UMPFENBACH (Chief of Propulsion Department). RANGS repaired and provided materials for the construction of instruments. MUELLER built the temperature indicators.

18. The following equipment was on hand:

a. Galvanometers (null type)
b. Potentiometers (for temperature measuring); these were of good design.
c. Microscope for industrial purposes. This was an exact mate to the one in the aerodynamics department. They were good instruments but they were copies of Zeiss instruments. It was rumored among the Germans that they were made at Leningrad or Moscow by Germans.
d. Cathode-ray oscilloscopes and mechanical oscilloscopes. (All of German design.)
e. Many electrical measuring equipments

19. PROPULSION DEPARTMENT

The department chief, UMPFENBACH, operated a test stand that was finished . The test stand was outdoors, surrounded by two buildings and a fence. Vision was obstructed by trees. A rising slope of ground was used as a blasting wall. Judging from the sound, rocket engines were all that were ever tested. Sometimes tests were run many times a day and sometimes there was no activity for weeks.

20. Several Soviets worked at the test stand and the number was built up to approximately ten at the time the Soviets took over the work in early 1951. This was the second area taken over by the Soviets, soon after the high frequency work was shifted from the Germans to the Soviets. The Soviets occasionally consulted Dr. UMPFENBACH after they took over. BRUNNER is probably the most knowledgeable man on the test stand, its construction and its results. He practically lived with the stand.

21. Dr. PAUER did the calculations for the test stand work. Dr. UMPFENBACH seemed pleased with the test stand and its results but many of the Germans had a poor opinion of its value. The project was completely German with the Soviets as observers only.

22. Some of the recording equipment came from Peenemuende but most of it was built by the group. the stand's upper limit of thrust measurement was around 1000 kgs. This is based on my conversations with other Germans. The Soviet commission visits were not associated with the test stand work or any other individual department's work.

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23. This department had a laboratory directed by Dr. PAUER for injection jet testing. Water or fuel was sprayed through an injection jet onto a flat plate. The laboratory had high pressure equipment of perhaps 10 atmospheres and used water for the tests

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the photographing of the results of the spray tests. Dr. PAUER had worked on this process in Dresden for Peenemuende This work was carried out in a small laboratory, perhaps 18 x 12 feet.

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24. MAGNUS was in charge of measuring an evaluation. Prof. KLOSE wrote reports, BERGEMANN assisted Dr. PAUER and SCHAEFER , and VIEBACK worked with BRUNNER on the test stand.

25. CHEMICAL DEPARTMENT

This department under Dr. Frans MATTRES supported the other departments in the solution of their chemical problems. The spectrograph was moved to this department, the 25X1 Messung Instrument Section of the Steuerung department to make temperature measurements on small flames.

26. Dr. Gerhard SIEGMUND did the flame temperature work. 25X1 He also conducted gas analyses for the propulsion department. Dr. OTTO experimented with alcohol as a fuel. Dr. ZEISE did the theoretical work (on theory of combustion). 25X1 Some work was also done using petroleum as a fuel. the grade or grades of petroleum being used.

27. Heat of formation work was carried out for various combustion processes. All this work was for V-2 improvement. Liquid oxygen was the only oxidizer 25X1

28. BALLISTICS DEPARTMENT

This department under Dr. WOLFF did nothing but paper work. They made calculations to be used by the construction department, concentrating on trajectory problems and methods of simplifying these calculations.

29. This department was regarded as an over-staffed group. Whenever a man had no particular job he was assigned to it. For example, Dr. GROETTRUP was assigned here after being removed in 1950 from his position of chief constructor. MUELLER and Dr. Werner SCHULZ did most of the work here doubt if anything 25X1 worthwhile was accomplished. 25X1

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30. CONSTRUCTION DEPARTMENT

This department coordinated the results of the other departments into a design. Their work was entirely paper work. In 1946 and 1947 they worked on the reconstruction of the V-2 along the lines of the original rocket. From 1947 to 1951, they planned a lengthening of the V-2 rocket. The work was kept secret from the other Germans 25X1 they ever did any work on the other two missiles From 1951 on they were like our aerodynamics department, and kept occupied on insignificant jobs or jobs of their own choosing.

31. BUILDING DEPARTMENT AND WORKSHOP

This department drew up plans for rebuilding the Institute. 25X1 the location had formerly been used for medical research. . Stables existed where horses may have been sheltered. The buildings were old and in bad condition. The island had suffered considerable war damage. The department planned new construction and laid out the laboratories and offices (also residences). The 25X1 actual work was done by the Soviets. This department drew the plans for the construction of water canal, the wind tunnel, the 25X1 jet injector test bench, and the test stand. The workshop actually made the installations - pipes, tanks, channels, frames, etc. This workshop had good and sufficient quantities of German machine tools.